

REMARKS

This paper is responsive to the Office Action mailed January 26, 2009. Upon entry of the present Amendment, claims 1, 7, and 8 will have been amended, and claim 4 will have been cancelled without prejudice or disclaimer, and while reserving the right to pursue these claims in one or more divisional or continuation applications. Applicants respectfully submit that no new matter has been added and that support for the amendments can be found at least from Table 1 of the specification, which reflects data regarding Test Examples 1 and 2. Thus, upon entry of this Amendment, claims 1, 3, 7, and 8 are the only claims under consideration by the Examiner, of which claim 1 is independent.

Drawings

Applicants thank the Examiner for indicating acceptance of the drawings submitted on November 7, 2008.

Claim Rejections – 35 U.S.C. § 103

The Office Action rejects claims 1 and 7 under 35 U.S.C. § 103 as being unpatentable over Mitani (U.S. 6,245,645).

The Office Action also rejects claims 3, 4, and 8 as allegedly unpatentable over Mitani, further in view of Cheung (U.S. Patent No. 6,344,404).

Initially, Applicants note that upon entry of this Amendment, claims 1, 7, and 8 will have been amended and claim 4 has been cancelled. Thus, Applicants respectfully submit that the rejections of record have been rendered moot. Further, Applicants respectfully submit that the cited documents do not singly, or in combination, disclose the features of the pending claims.

Applicants respectfully submit that no new matter has been added and further note that support for the amendments can be found at least from Table 1. Applicants submit that, with reference to Test Example 1, the BOX thickness of the active layer substrate (as reflected in column 2 of the Table) and the $t_{\text{dox}}/t_{\text{soi}}$ ratio (as reflected in column 4 of the Table) result in an active layer thickness of approximately 333 nm. Applicants respectfully submit that Table 1 also supports that the BOX thickness of the active layer substrate can be between 10 nm (Test Example 1) and 30 nm (Test Example 2).

In particular, Applicants respectfully note that a feature of the pending claims recites the thickness of the active layer (thin film) as being 333 nm or less and also recites the thickness of the insulating film as less than $1/9$, corresponding to the thickness of the active layer. Thus, there is a smaller influence when implanting ions into the wafer for the active layer having a thin insulating film, as well as an improved uniformity of the thickness of the active layer, especially after cleavage and separation. Applicants respectfully submit that the cited documents do not disclose that because of the thinness of the active layer, the uniformity of the film thickness becomes an important variable. As such, Applicants submit that the cited documents fail to recognize the features of the pending claims as a result effective variable.

Applicants respectfully submit that the cited documents do not disclose or suggest the relationship between the thickness of the insulating film for the active layer and the thickness of the active layer, when the thickness is 333 nm or less. In the present invention, by setting the relationship between the thickness of the insulating film for the active layer wafer and the thickness of the active layer, it is possible to reduce the variation of thicknesses of the active layer after cleavage and separation. Therefore, Applicants respectfully submit that the present invention has specific features which differ from the cited documents, which do not disclose nor

indicate the relationship between the thickness of the insulating film for the active layer wafer and the thickness of the active layer.

Applicants note that the Office Action alleges that Mitani discloses the features of the pending claims. However, the Office Action states, and Applicants agree, that Mitani does not show “that the thickness of said insulating film of said active layer wafer, t_{dox} , satisfies the following formula: $t_{dox} < (1/9) \times t_{soi}$, where t_{soi} = thickness of said active layer.” The Office Action further alleges that Mitani “discloses the same materials, ions, process steps, and features” and further that the claims are “prima facie obvious without showing that the claimed ranges achieve unexpected results relative to the prior art range.”

Applicants note that claim 1 has been amended to further clarify the invention. Nonetheless, Applicants respectfully note that the MPEP states that “[a] particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977).” As established in the foregoing remarks, Applicants respectfully submit that the cited documents fail to recognize the thickness of said insulating film of said active layer wafer, t_{dox} , satisfies the formula of the pending claims, as admitted by the Office Action, and furthermore, the cited documents fail to recognize that the thinness of the active layer as a result-effective variable to achieve uniformity.

CONCLUSION

For at least the foregoing reasons, it is respectfully submitted that all pending claims are patentably distinct over the documents employed in the rejection of record. Applicants request reconsideration and withdrawal of the rejections of record. Allowance of the application with an early mailing date of the Notices of Allowance and Allowability is therefore respectfully requested.

If there should be any questions, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully Submitted,
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